

IN THE CLAIMS

This listing of claims replaces all prior listings:

1. (Currently Amended) A cathode material, comprising:

a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), wherein,

~~a composition ratio of lithium to the total of manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and~~

the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{Al}_{1-b-c} \text{O}_d$ (where the values of a, b, c, and d are within the ranges of $1.0 < a < 1.6$ $1.4 < a < 1.55$, $0.5 < b+c < 1$, $1.8 < d < 2.5$ $1.8 < d < 2.5$).

2. (Cancelled)

3. (Currently Amended) A cathode material, comprising:

a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), wherein,

~~a composition ratio of lithium to the total of manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and~~

the complex oxide is represented by a chemical formula $\text{Li}_{1-e} (\text{Mn}_f \text{Cr}_g \text{M}_{1-f-g})_{1-e} \text{O}_h$ (where M is at least one kind of element selected from the group consisting of titanium, magnesium and aluminum, and the values of e, f, g and h are within the ranges $0 < e < 0.4$ $0.35 \leq e < 0.4$, $0.2 < f < 0.5$, $0.3 < g < 1$, $f + g < 1$ and $1.8 < h < 2.5$).

4. (Currently Amended) A method of manufacturing a cathode material, the cathode material comprising a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), a composition ratio of lithium to the total of manganese, chromium, titanium,

magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{M}_{1-b-a} \text{Al}_{1-b-c} \text{O}_d$ (where the values of a, b, c, and d are within the ranges of $1.0 < a < 1.6$ $1.4 < a < 1.55$, $0.5 < b+c < 1$, $1.8 < d < 2.5$ $1.8 < d < 2.5$), the method comprising the step of:

mixing materials with ethanol as a dispersion medium to synthesize the complex oxide.

5. (Currently Amended) A battery, comprising:

a cathode;

an anode; and

an electrolyte,

wherein,

the cathode comprises a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and a composition ratio of lithium to the total of manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and

the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{M}_{1-b-a} \text{Al}_{1-b-c} \text{O}_d$

(where the values of a, b, c, and d are within the ranges of $1.0 < a < 1.6$ $1.4 < a < 1.55$,

$0.5 < b+c < 1$, $1.8 < d < 2.5$ $1.8 < d < 2.5$).

6. (Cancelled).

7. (Currently Amended) A battery, comprising:

a cathode;

an anode; and

an electrolyte,

wherein,

the cathode comprises a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and a composition ratio of lithium to the total of

~~manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio; and~~

the complex oxide is represented by a chemical formula $\text{Li}_{1+\epsilon} (\text{Mn}_f \text{Cr}_g \text{M}_{1-f-g})_{1-\epsilon} \text{O}_h$ (where M is at least one kind of element selected from the group consisting of titanium, magnesium and aluminum, and the values of e, f, g and h are within the ranges of $0 < \epsilon < 0.4$, $0.35 < e < 0.4$, $0.2 < f < 0.5$, $0.3 < g < 1$, $f + g < 1$, and $1.8 < h < 2.5$).

8. (Currently Amended) A method of manufacturing a cathode material, the cathode material comprising a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and a composition ratio of lithium to the total of manganese, chromium, titanium, magnesium and aluminum in the complex oxide is larger than 1 in molar ratio, and the complex oxide is represented by a chemical formula $\text{Li}_{1+\epsilon} (\text{Mn}_f \text{Cr}_g \text{M}_{1-f-g})_{1-\epsilon} \text{O}_h$ (where M is at least one kind of element selected from the group consisting of titanium, magnesium and aluminum, and the values of e, f, g and h are within the ranges of $0 < \epsilon < 0.4$, $0.35 < e < 0.4$, $0.2 < f < 0.5$, $0.3 < g < 1$, $f + g < 1$ and $1.8 < h < 2.5$), the method comprising the step of:

mixing materials with ethanol as a dispersion medium to synthesize the complex oxide.

9. (New) A cathode material, comprising:

a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), wherein,

the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{M}_{1-b-c} \text{O}_d$ (where M is at least one kind of element selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and where the values of a, b, c, and d are within the ranges of $1.4 < a < 1.55$, $0.5 < b+c < 1$, $1.8 < d \leq 2.5$).

10. (New) A method of manufacturing a cathode material, the cathode material, comprising a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum

(Al), the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{M}_{1-b-c} \text{O}_d$ (where M is at least one kind of element selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and where the values of a, b, c, and d are within the ranges of $1.4 < a < 1.55$, $0.5 < b+c < 1$, $1.8 < d \leq 2.5$), the method comprising the step of:
mixing materials with ethanol as a dispersion medium to synthesize the complex oxide.

11. (New) A method of manufacturing a battery comprising a cathode, an anode, and an electrolyte, the cathode having a cathode material comprising a complex oxide including lithium (Li), manganese (Mn), chromium (Cr) and at least one kind selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), the complex oxide is represented by a chemical formula $\text{Li}_a \text{Mn}_b \text{Cr}_c \text{M}_{1-b-c} \text{O}_d$ (where M is at least one kind of element selected from the group consisting of titanium (Ti), magnesium (Mg) and aluminum (Al), and where the values of a, b, c, and d are within the ranges of $1.4 < a < 1.55$, $0.5 < b+c < 1$, $1.8 < d \leq 2.5$), the method comprising the step of:

mixing materials with ethanol as a dispersion medium to synthesize the complex oxide.